A REVIEW OF THE GENUS *ISOPEDA* L. KOCH (HETEROPODIDAE: ARANEAE) IN AUSTRALASIA WITH DESCRIPTIONS OF TWO NEW GENERA

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The genus *Isopeda* L. Koch is redefined. *Holconia* Thorell is reinstated. Type species of those genera are redescribed. Two new genera, *Isopedella* and *Beregama* are described and a valid taxon for each is selected as type species and redescribed. All nominal Australasian species are allocated to their respective genera and synonyms of type species noted. Three species are excluded from the above genera. A further four are considered nomina dubia. Distribution of the genera is discussed briefly.

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The broad definition by Koch (1875) of the genus *Isopeda* has never been questioned. The similar appearance of included species combined with a lack of any detailed study of the genitalia and corresponding morphology resulted in a heterogeneous assembly of taxa and allowed the inclusion of *Holconia* Thorell by Hogg (1903) to be readily accepted. The present paper is a preliminary work on the genus *Isopeda* with the recognition as genera of four major species groups currently contained within it. It is the third part of a revision of the Australian Heteropodidae excluding *Heteropoda* Latreille, 1804, and provides clarification of the taxa included in the genus *Isopeda* in the interim, until species involved are revised.

L. Koch (1867) described *Ocypete vasta* and *Delena immanis*. Thorell (1870) described a new genus and species, *Voconia insignis*, and also the species *Heteropoda pessleri*. L. Koch (1875) added *V. dolosa* and transferred *Delena immanis* to *Voconia*. Koch also transferred *H. pessleri* and *O. vasta* to his new genus *Isopeda* selecting *vasta* as type species. Eight new species, *aurea*, *conspersa*, *cordata*, *flavibarbis*, *flavida*, *hirsuta*, *robusta* and *villosa* were also described. Thorell (1877) found *Voconia* pre-occupied and replaced that name with *Holconia*. Thorell (1881) described *Isopeda deianira*, *I. herculea* and *Holconia subdola*. Hogg (1896) described *I. horni* which he subsequently (Hogg, 1903) transferred to *Pediana* Simon, 1880. Hogg (1903) in his revision of the Australasian Heteropodidae synonymised *Holconia* with *Isopeda* and described eleven new species, *ardrossana*, *frenchi*, *leai*, *leishmanni*, *montana*, *pengellya*, *pococki*, *saundersi*, *tepperi*, *tierzi* and *woodwardi*. Strand (1907) described *I. maculigastra* and *I. vastata*. Simon (1908) described *cana*, *cerussata*, *nigrigularis* and *woodwardi*. As the latter was a hornonym, the species was renamed *I. simoni* by Rainbow (1911). Strand (1911) described *I. terangana* and later Strand (1913) added *I. conspersula*, *I. immigrans*, *I. inola* and *I. herculeana*. Rainbow (1917) described *I. gloriosa*. Lastly Chrysanthus (1965) described *I. goliath* and *I. meraukensis*.

Thus, 41 nominal species are considered here from the Australasian region (Table 1) excluding *I. horni* which was previously (see above) transferred to *Pediana*. A further eight species outside this region are not considered in this review and it is likely that many, if not all, belong to other genera.

Materials and Methods

Only the nominated type species is treated for each genus. New synonymies and lists of material examined, other than for material mentioned here, will be given in revisions of the genera which are in preparation. Non-type material is used where types are unavailable and for drawings of the internal female genitalia, which are dissected and cleared in lactic acid. Setae are generally omitted from illustrations. Descriptive format follows Hirst (1989a, 1989b). Leg ratio is the leg length divided by carapace length. Other leg comparisons are made with those legs held together at right angles to the body. Descriptions of tibial apophysis shape are given from the retrolateral aspect. Median ocular quadrat (MOQ) measurements are abbreviated to aw (anterior width), pw (posterior width) and l (length). Measurements are given in millimetres. Localities are abbreviated as ACT, Australian Capital Territory; NSW, New South Wales; Q, Queensland; SA, South Australia; V, Victoria; WA, Western Australia. Further acronyms are AM, Australian Museum, Sydney; BMNH, British Museum (Natural History), London; NHMW,

TABLE 1.

Nominal species	Revised status, this work
Ocypete vasta L. Koch, 1867	= *Isopeda vasta* (L. Koch)
Delena immanis L. Koch, 1867	= *Holconia immanis* (L. Koch)
Voconia insignis Thorell, 1870	= *Holconia insignis* (Thorell)
Heteropoda pessleri Thorell, 1870	= *Isopedella pessleri* (Thorell)
Voconia dolosa L. Koch, 1875	nomen dubium
Isopeda aurea L. Koch, 1875	= *Beregama aurea* (L. Koch)
Isopeda conspersa L. Koch, 1875	= *Isopedella conspersa* (L. Koch)
Isopeda cordata L. Koch, 1875	= *Beregama cordata* (L. Koch)
Isopeda flavibarbis L. Koch, 1875	= *Beregama aurea* (L. Koch)
Isopeda flavida L. Koch, 1875	= *Isopedella flavida* (L. Koch)
Isopeda hirsuta L. Koch, 1875	= *Holconia hirsuta* (L. Koch)
Isopeda robusta L. Koch, 1875	= nomen dubium
Isopeda villosa L. Koch, 1875	= *Isopeda villosa* L. Koch
Isopeda deianira Thorell, 1881	= ? *Olios deianira* (Thorell)
Isopeda herculea Thorell, 1881	= *Beregama herculea* (Thorell)
Holconia subdola Thorell, 1881	= *Holconia subdola* Thorell
Isopeda ardrossana Hogg, 1903	= *Isopedella ardrossana* (Hogg)
Isopeda frenchi Hogg, 1903	= *Isopedella frenchi* (Hogg)
Isopeda leai Hogg, 1903	= *Isopedella leai* (Hogg)
Isopeda leishmanni Hogg, 1903	= *Isopeda leishmanni* Hogg
Isopeda montana Hogg, 1903	= *Isopeda montana* Hogg
Isopeda pengellya Hogg, 1903	= *Isopeda pengellya* Hogg
Isopeda poracki Hogg, 1903	= nomen dubium
Isopeda saundersi Hogg, 1903	= *Isopedella saundersi* (Hogg)
Isopeda tepperi Hogg, 1903	= *Isopedella tepperi* (Hogg)
Isopeda tietzi Hogg, 1903	= *Isopedella tietzi* (Hogg)
Isopeda woodwardi Hogg, 1903	= *Isopeda woodwardi* Hogg
Isopeda maculigastra Strand, 1907	= *Isopedella maculigastra* (Strand)
Isopeda vastata Strand, 1907	= nomen dubium
Isopeda cana Simon, 1908	= *Isopedella cana* (Simon)
Isopeda cerussata Simon, 1908	= *Isopedella cerussata* (Simon)
Isopeda nigrigularis Simon, 1908	= *Holconia nigrigularis* (Simon)
Isopeda woodwardi Simon, 1908	= *Holconia simoni* (Rainbow, 1911)
Isopeda terangana Strand, 1911	= *Isopedella terangana* (Strand)
Isopeda conspersula Strand, 1913	= *Isopeda vasta* (L. Koch)
Isopeda immigrans Strand, 1913	= *Polybetes pythagoricus* Holmberg, 1874
Isopeda inola Strand, 1913	= *Isopedella inola* (Strand)
Isopeda herculeana Strand, 1913	= *Beregama aurea* (L. Koch)
Isopeda gloriosa Rainbow, 1917	= *Delena gloriosa* (Rainbow) nov. comb.
Isopeda goliath Chrysanthus, 1965	= *Beregama goliath* (Chrysanthus)
Isopeda meraukensis Chrysanthus, 1965	= *Isopedella meraukensis* (Chrysanthus)

Naturhistorisches Museum, Wien, Austria; NHRM, Naturhistoriska Riksmuseet, Stockholm, Sweden; QM, Queensland Museum, Brisbane; SAMA, South Australian Museum, Adelaide; SMF, Natur-Museum Senckenburg, Frankfurt-am-Main, Germany; SMNS, Stadtliches Museum für Naturkunde, Stuttgart, Germany; ZMH, Zoologisches Museum, Hamburg, Germany.

Discussion of Diagnostic Morphological Features

The generic diagnosis given for *Isopeda* by Koch (1875) contained few characters or character combinations, which are found only in that genus. That diagnosis includes genera found in New Guinea which are not dealt with here. Apart from the reference to the flattish carapace it could equally include *Neosparassus* Hogg, 1903. Also characters used by early workers, leg spines, number of cheliceral teeth, and to some extent, eye position, have been found in this study to be either subject to bilateral variability or to variation. Sternum colour is useful at species level and will be dealt with fully in future revisions.

Although represented by two different genitalia forms, the congeneric relationship of the two species groups of *Pediana* was supported by other characters (Hirst, 1989b). However, the species groups of *Isopeda* (sensu lato) have conflicting character states in addition to those of the genitalia. Two 'outlying' groups are easily removed from *Isopeda* and raised to generic level. These are *Holconia* and *Beregama*. Using characters which enable reinstating the genus *Holconia* and erection of the new genus *Beregama*, a further new genus, *Isopedella*, can be removed from *Isopeda* leaving three minor species groups which feasibly belong in the latter genus.

Table 2 summarises the characters for each genus in cladistic form using apomorphic characters but without the aid of computer analysis. The embolus, conductor and embolar base, which is basically an extension of the tegulum, largely obscure the tegulum. The latter partly extends pro-distally into the distal half of the cymbium and except in *Holconia*, is ventrally modified to form a tegular apophysis. The ventral edge of the tegular apophysis of *Isopeda* (Fig. 3) is usually close to the embolar base and has a flattish posterior face. The tegular apophysis of *Isopedella* often has the ventral edge spaced further from the embolar base with the posterior face concave (Fig. 13). Also, the apophysis often extends further mesally. *Beregama* has a weakly modified or rounded tegular apophysis (Fig. 18). The tegulum of *Holconia* is not modified to form an apophysis, this being replaced by a subembolic apophysis at the junction of the tegulum and embolar base (Fig. 8).

Adjacent to the junction of the embolar base and the embolus proper a sclerite occurs in *Isopeda* (Fig. 1) which presumably has its homology in the median apophysis of *Pediana* (Hirst, 1989b), but as it is not truly representative of an apophysis it is here termed the embolic sclerite. The embolic sclerite is reduced in several species of *Isopeda* where it is paralleled by one species of *Holconia*. In other *Holconia* species and also *Beregama* the

TABLE 2. Summary of diagnostic characters.

Apomorphic character state	Beregama	Isopeda	Holconia	Isopedella
1 Tegular apophysis extends mesally				*
2 Tibial apophysis narrow doubly curved				*
3 Legs I and II subequal				*
4 2nd embolic coil larger than 3rd				*
5 Embolar base large retrolaterally				*
6 Leg spination relatively greater				*
7 Chelicerae never enlarged distally			*	*
8 Embolar base without granulations			*	*
9 Embolar base with mesal ridge			*	
10 Epigynal sclerite present			*	
11 Subembolic apophysis present			*	
12 Embolar flange mesal, short, low			*	
13 Spermathecal sacs shortish, curved			*	
14 Tibial apophysis lanceolate			*	
15 Tibial apophysis angled to venter		*		
16 Spermathecal sacs shortish, straight		*		
17 Epigynum narrow anteriorly, broad posteriorly		*		
18 Embolic sclerite adjacent granulate area		*		
19 Embolus constricted ¼ to ½ turn from tip		*	*	
20 Anterior eye spacings equal		*	*	
21 Carapace low, flattish above		*	*	
22 Recurved posterior eye row		*	*	
23 Spermathecal sacs not arced to anterior		*	*	*
24 Clypeus ½ diameter of AME or less		*	*	*
25 Embolar base connects embolus more proximally	*		*	
26 Embolic flange low prodistal or absent	*			*
27 AME-ALE width ½–¾ width of AME-AME	*			*
28 Spermathecal sacs, when present, tubular	*	*	*	*
29 Embolus in single stack of 6 to 15 coils	*	*	*	*
30 Conductor originates from retro-proximal	*	*	*	*
31 Fossa lacks setae	*	*	*	*
32 Fossa with sclerotised lateral rims	*	*	*	*
33 Conductor fills 'gap' left by last embolus coil	*	*	*	*

(The combination of characters 29–33 diagnose the above genera from other closely related Australian heteropodid genera.)

sclerite is recessed to unite with the embolus more proximally (Fig. 6) and is not distinct as a separate sclerite. The embolic sclerite is obscured or absent in *Isopedella*.

The embolar base is largest in *Isopedella* where it overhangs part of the embolus retrolaterally (Fig. 11). *Holconia* species have a reduced embolar base with a prominent mesal ridge (Fig. 6). The embolar base is least developed in *Beregama*. Small granulations (Fig. 1) are present on the embolar base of *Isopeda* and *Beregama*. Granulations are also found in *Neosparassus* (unpublished data). Their significance is unknown. One species of *Holconia*, which has the embolic sclerite similar to *Isopeda* (see above), has ridges on the embolar base apparently derived from the granulations but further discussion is withheld for a paper on *Holconia* (in prep.). A flange is present on the distal margin of the embolar base (Figs 1, 3) but absent or low in some species of *Isopedella* and *Beregama*. A low, short flange in *Holconia* is positioned more mesally having been displaced by the subembolic apophysis.

The embolus rises from the embolar base and tegulum retro-distally, arcing around the tegulum proximally before continuing prolaterally into the distal half of the cymbium. Here the embolus forms a single conical stack of six to fifteen coils. The conductor originates within the embolar base and emerges proximally, running adjacent to the inner side of the embolus prolaterally then under the first coil of the embolar stack. Here it spirals tightly in cylindrical form, with the number of turns somewhat corresponding to that of the embolus, before expanding to fill the gap left by the last embolar coil and supporting the embolus tip. The embolus tapers gradually to the tip in *Isopedella* and *Beregama* but is often constricted ½ to ¼ turn from the tip in *Isopeda* (Fig. 1) and some *Holconia*. In all genera except *Isopedella* the first and second embolic coils are smaller than the third and the first coil is not easily seen in ventral view.

The distal retrolateral tibial apophysis is subequal in length to the tibia and supported by a mesal membranous thickening attached to the base which in *Holconia* and some *Isopeda* forms a smooth,

somewhat continuous line with the apophysis. In *Isopeda* the tibial apophysis turns towards the venter above the base and is angular in shape (Fig. 2). It is laterally flattened and often serrated on its dorsal edge. *Isopedella* has a more rounded tibial apophysis narrower at the base and gradually tapered with an additional forward curve (Figs 11–12). *Holconia* has a lanceolate shaped apophysis (Fig. 7), somewhat laterally flattened and directed to the anterior. The relatively shorter tibial apophysis in *Beregama* is straight or more usually, curved much as in *Isopedella*, but then broader midlength (Fig. 17) or, throughout.

The lateral rim and fossa of the epigynum lack setae. The large fossa is overhung laterally by a sclerotised rim which is narrowly divided anteriorly. The rim is relatively flat and the fossa not deeply recessed except in *B. aurea*, in which the rim slopes steeply towards a sunken fossa. The broader posterior margin (narrower in some *Beregama*) turns mesally against the epigastric furrow. *Isopeda* has an ovoid shaped epigynum (Fig. 4) often with the fossa bulged at the anterior margin, that of *Isopedella* is somewhat narrower, bell-shaped or ovate (Fig. 14). The epigynum of *Holconia* is bell-shaped (Fig. 9), or in one species rounded, but in both cases, broader anteriorly than other genera except *H. immanis* in which the epigynum may be relatively smaller. *Beregama* species have a rounded or horseshoe shaped epigynum accentuated by the continuation of sclerotisation across the anterior margin except *B. aurea* which has a bell-shaped epigynum (Fig. 19). A sclerite, termed the epigynal sclerite, on the postero-lateral corner of the epigynum extends partly over the fossa in *Holconia* (Figs 9–10).

Internally the vulva comprises paired insemination ducts coiled around central spermathecal ducts which lead back adjacent to anterior part of fossa. Here there are usually tubular spermathecal sacs, extending medially under fossa, moderately long to short and occasionally 'elbow-like' in *Isopeda* (Fig. 5), shortish and curved in *Holconia* (fig. 10), long and arced forward to the anterior in *Beregama* (Fig. 20) but absent (Fig. 15) or 'elbow-like' in *Isopedella*. The spermathecae loop to anterior of fossa then continue under the sclerotised rim as fertilization ducts to posterior of epigynum.

Relative lengths of anterior legs vary both intraspecifically and from bilateral variability, but in most *Isopeda* and *Holconia* leg II is much longer than leg I with the latter reaching about mid-length along metatarsus II or at least not reaching the distal end of the metatarsus. *Beregama* generally have leg I reaching almost to, or to the distal end of metatarsus II while leg I of *Isopedella* reaches beyond metatarsus II to mid-length of tarsus II. *Isopedella* females have relatively shorter legs than females of other genera. Spination of legs is lowest in some *Isopeda* and greatest in *Isopedella*.

The carapace is generally low and flattish in *Isopeda* and *Holconia* but higher and convex in *Isopedella* and *Beregama*. The clypeus width of *Beregama* is often subequal to the diameter of an AME but half the width or less of an AME in other genera. Anterior eye spacings are rather equal in *Isopeda* and *Holconia*, subequal in *Beregama* while *Isopedella* have the AME-ALE width about half that between the AME. A line drawn behind the posterior eye row is slightly to distinctly recurved in *Isopeda* and *Holconia* but relatively straight in the other genera. Males of *Isopeda* and *Beregama* often have the chelicerae retro-distally elongated with the distal tooth largest, angled more anteriorly and well spaced from the subdistal tooth and fang base. The remaining genera lack modified chelicerae and the distal retromarginal tooth is usually smaller than the subdistal tooth.

The dorsal pattern of the abdomen is relatively constant in each genus. *Isopeda* usually have three or four pairs of blackish spots with the middle pairs elongated and often joined. Juveniles of some species have pairs of spots which are often lacking in adults. *Isopedella* may be similar to *Isopeda* but with usually two unjoined pairs of spots. This may be supplemented or replaced by a posterior folium, or by irregular spots formed by clusters of brownish setae. *Holconia* has a pattern of large brownish patches and often a yellow-brown or black anterior streak. Two or three pairs of spots may be present. *Beregama* is without a well defined pattern except for a folium in *B. cordata*.

The genera *Isopeda* and *Beregama* appear to contain relict species. *Beregama* is closely related to *Typostola* and *Zachria*. It has likely evolved from that stock rather than from within *Isopeda*. This is supported by the female spermathecae shape, the recessed fossa of *B. aurea* and by two unnamed species of uncertain generic placement having a male palp structure intermediate between *Typostola* and *Beregama* (unpubl. data). *Isopeda* is considered to have given rise to the more derived genera, *Isopedella* and *Holconia* following xeric events. These derived genera have successfully invaded the arid areas of Australia. The genera are not known to occur in Tasmania while *Beregama* and *Isopedella* are found in New Guinea.

Key to the Genera Previously Included in *Isopeda*

1 — Carapace flattened, or low and flattish medially. Anterior eyes equally spaced. 2
— Carapace convex. Anterior eyes not equally spaced 3

2 — Dorsal abdomen with 3 or 4 pairs of blackish spots, occasionally indistinct but usually without additional pattern. Male palpal tibial apophysis angled towards venter from above base and angular in shape (Fig. 2). Embolic sclerite present with adjacent granulated area on embolar base. Female epigynum ovoid, fossa narrow anteriorly, usually at least twice as broad posteriorly (Fig. 4). Spermathecal sacs shortish and straight but may be 'elbow-like' (Fig. 5). . . . . *Isopeda* L. Koch

— Dorsal abdomen with large dark brown or blackish patches in addition to 2 or 3 pairs of indistinct spots. Male palpal tibial apophysis lanceolate, anteriorly directed (Fig. 7). Subembolic apophysis between tegulum and embolar base (Fig. 8), tegular apophysis absent. Female with epigynal sclerite (Fig. 9). Spermathecal sacs shortish, usually curved (Fig. 10). . . . . *Holconia* Thorell

3 — Clypeus less than half width of AME. Male palpal tibial apophysis narrow, doubly curved, gradually tapered (Fig. 12). Embolar base broad, produced over embolus retrolaterally. Tegular apophysis extended distally and mesally usually with concave posterior face. Female epigynum relatively narrow, bell-shaped or ovate (Fig. 14). Spermathecal sacs absent (Fig. 15), rarely 'elbow-like'. . . . . *Isopedella* gen. nov.

— Clypeus greater than half width of AME. Male palpal tibial apophysis straight and thin or doubly curved and, at least, broadest mid-length (Fig. 17). Tegular apophysis reduced or obscured. Female epigynum heavily sclerotised anteriorly, horse-shoe shaped or with broadly rounded posterior corners (Fig. 19) and fossa recessed. Spermathecal sacs long, curved to anterior (Fig. 20) . *Beregama* gen. nov.

Isopeda L. Koch

Isopeda L. Koch, 1875: 678.
Isopoda: Thorell, 1881: 293.

Type species:
Ocypete vasta L. Koch, 1867 by original designation.

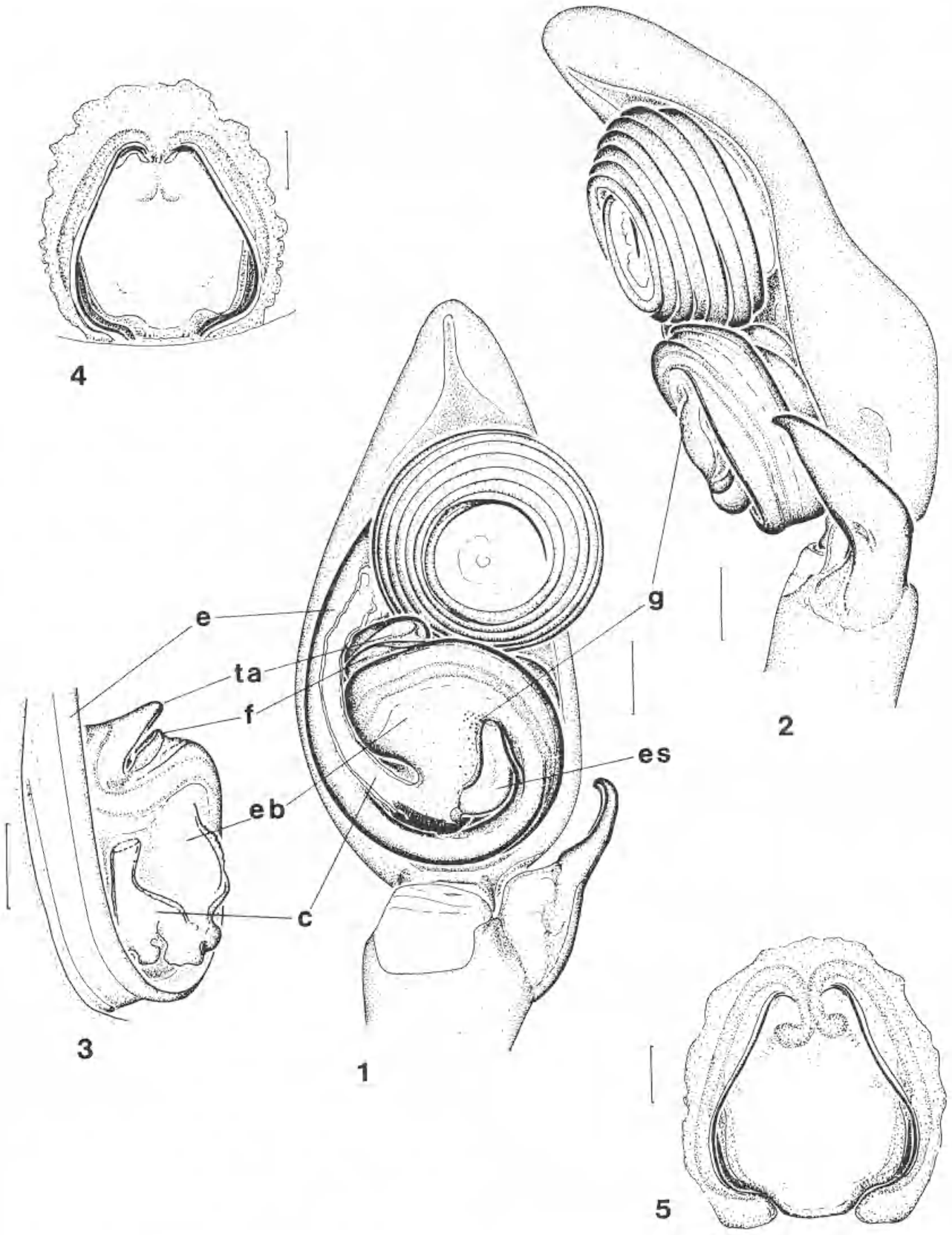
Diagnosis
Male palpal tibial apophysis angled towards venter above base and angular in shape, often serrated on dorsal edge. Female fossa anteriorly narrow, usually at least twice as broad posteriorly. Spermathecal sacs moderately long to short or 'elbow-like'.

Description
Carapace low, flattish medially to very flattened, length equals 4.5–8 times height. Anterior eyes rather equally spaced. Distance between PME subequal or greater than between PME-PLE. Line drawn behind posterior eyes recurved, rarely straight. Clypeus about half diameter or less of AME. Chelicerae may be ovoid, glabrous with some short blunt or swollen-tipped setae, or with relatively straight retrolateral side and long tapered setae. In the latter case the male may have chelicerae modified, extended retro-distally with distal tooth often angled to anterior, large and well spaced from others. Leg I, when outstretched alongside leg II, reaches from mid-length of metatarsus II to towards distal end of metatarsus. Distal margin of coxa I occasionally with a comb-like arrangement of short blunt-tipped setae. Palp femur and coxa I may have ventral stout bristles. Abdomen usually marked dorsally with four pairs of black spots, median pairs joined or narrowly separated. Male palpal tibia with large, often broad, laterally flattened retrolateral apophysis angled towards venter just above base, angular in shape, dorsal edge often serrated. Embolus coiled seven to eleven times, constricted ¼ to ½ turn from tip. Embolar base with large distal flange. Embolic sclerite large and prominent or smallish and partly overhung by the granulate area of the embolar base. Tegular apophysis with flattish posterior face, ventral edge extending to adjacent flange on embolar base. Female epigynum ovoid, lateral rims often relatively straight, diverging gradually from narrow emarginate and occasionally bulged anterior, usually at least twice as broad posteriorly. Fossa usually well separated from lateral rim at concave posterior corners. Spermathecal sacs moderately long, relatively straight to short and 'elbow' shaped, rarely absent, most often shortish.

Species included
Isopeda leishmanni Hogg, 1903, *I. montana* Hogg, 1903, *I. pengellya* Hogg, 1903, *I. vasta* (L. Koch, 1867), *I. villosa* L. Koch, 1875 and *I. woodwardi* Hogg, 1903. Several unnamed species are known. Distribution of *Isopeda* is from south-eastern Queensland along the east coast to south-eastern SA and south-western WA. It is found inland in areas with over 400 mm annual rainfall in NSW and V. Two species may be relict with one confined to alpine areas of V and NSW, the other to the Lamington Plateau in Q.

Isopeda vasta (L. Koch)
(Figs. 1–5, Table 3)

Ocypete vasta L. Koch, 1867: 207. Koch described a female from Brisbane Q., deposited in NHMW. One female (Nr 1882.II.6), examined, in the collection of NHMW, was apparently brought from the Godeffroy Museum, Hamburg, as was the holotype. Although not labelled as type, its measurements are nearer to that of the holotype as stated by Koch (1867) than the following 'syntypes' in regard to leg lengths and if the carapace length is taken to include the forward extension of the chelicerae.



FIGURES 1–5. *Isopeda vasta* (L. Koch). 1–2, left palpal tibia and tarsus of male QM S15567: 1, ventral; 2, retrolateral. 3, tegular apophysis and embolar base, prolateral, distal part of conductor not drawn. 4, epigynum of female NHMW 1882.II.6. 5, vulva of female QM S15568, ventral. Scale lines 0.5 mm. c, conductor; e, embolus; eb, embolar base; es, embolic sclerite; f, flange; g, granulations; ta, tegular apophysis.

Isopeda vasta: L. Koch, 1875: 679. Two females labelled 'Syntypes', Brisbane, Queensland, ZMH (Mus. Godeffroy Nr 298a and Nr 10299), examined, probably formed the basis of Koch's redescription in 1875, and the syntype designation is invalid. A male described by Koch (1875) has not been located. It also is not a valid type.

Isopeda conspersula Strand, 1913: 610. Holotype ♀, Queensland, SMF 4644, examined. **New synonymy.**

Female NHMW 1882.II.6

CL 9.2, CW 8.6, AL 13.5, AW 10.7.

Colour in alcohol: Carapace orange-red, caput reddish. Chelicerae red, darker retrolaterally. Anterior legs with orange-red femora and patellae, distal segments reddish, posterior pairs yellow-orange. Femur I with basal prolateral blackish patch. Coxae yellowish. Maxillae and labium red-brown, maxillae with blackish retromargin. Sternum red-brown, long yellow-brown setae. Abdomen creamish-grey, with brown setae forming 2 pairs of spots. Venter yellowish with thin transverse patch of brown setae posterior to epigastric groove. Carapace: low, sides rounded, flattish above. Eyes: AME 0.54. AME: ALE: PME: PLE = 1: 1.22: 0.66: 0.98. Interspaces: AME-AME 0.66, AME-ALE 0.70, PME-PME 1.85, PME-PLE 1.89, AME-PME 0.96, ALE-PLE 1.19. MOQ, aw: pw: I = 2.69: 3.19: 2.67. Width of clypeus 0.55. Chelicerae glabrous, geniculate at base, swollen on retrolateral side. Some short blunt-tipped setae near base, promargin and around fang base. Retrolateral teeth 4, proximal tooth small, others sub-equal, closely spaced. Sternum L 4.6, W 3.8. Legs: (Table 3) Leg II longer than leg I, ratios 3.9, 3.5 respectively. Trochanter I apically with short setae (*ca* 0.4) resembling a comb. Spination: Legs I and II, fe d2 p3 r3, pa p1 r1, ti d2 p2 r2 v6, me p2 r2 v4. Leg III, same, but ti d1. Leg IV, fe d2 p3 r1, pa p1, ti p2 r1 v6, me p4 r4 v4. Palp, fe d1 + 4 apically in transverse row, pa p1 r1, ti d1 p3 r2, ta p3 r2. Epigynum: (Figs 4–5) Lateral rim narrowly rounded anteriorly then diverging to near posterior before curving mesally. Anterior part of fossa emarginate, raised. Spermathecal sacs of QM S15568 (Browns Plains, Q) 'elbow-like'.

Male QM S15567 (Boondall, Q.) as female except as follows:

CL 8.8, CW 8.2, AL 9.2, AW 6.4.

Colour in alcohol: Carapace and legs yellow-brown. Maxillae and labium brown. Sternum brown. Abdomen yellow-brown with brown anterior streak. Eyes: AME 0.58. AME: ALE: PME: PLE = 1: 1.03: 0.66: 0.96. Interspaces: AME-AME 0.52, AME-ALE 0.52, PME-PME 1.52, PME-PLE 1.38, AME-PME 0.69, ALE-PLE 0.79. MOQ, aw: pw: I = 2.41: 2.79: 2.21. Width of clypeus 0.45. Chelicerae glabrous, geniculate. Few short blunt-ended setae around fang base. Retromargin of fang groove with 5 teeth, distal tooth barely larger than subdistal tooth. Sternum L 4.6, W 3.9. Legs: (Table 3) Leg II longer than leg I, ratios 5.1, 4.3 respectively. Trochanter of leg I apically with comb of short setae (*ca* 0.3). Spination: Leg IV, ti d1 r0 (on left), me r2 (3 on left) v4. Palp, ti r1. Palp: (Figs 1–3) Tibial apophysis equal in length to tibia. Broad at base, angled towards venter just above base, angular in form to apex, laterally flattened, serrated on dorsal edge. Embolus with 7½ coils, sharply constricted then thinly tapered for the final half turn to tip. Embolar base with elongate embolic sclerite, adjacent to which are numerous granules. Tegular apophysis with well defined ridge, almost touching flange on embolar base for part of its length.

Distribution

I. vasta occurs in south-east Queensland and north-east NSW.

Holconia Thorell

Voconia Thorell, 1870: 382.
Holconia Thorell, 1877: 485 (nom. nov. for *Voconia*; preoccupied).
Isopeda: Hogg, 1903: 429.

Type species

Voconia insignis Thorell, 1870 by original designation and monotypy.

Diagnosis

Male palpal bulb with subembolic apophysis

TABLE 3. Leg measurements of *Isopeda vasta* (L. Koch), female NHMW 1882.II.6 with male QM S15567 in parentheses.

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	9.0 (10.5)	4.7 (4.5)	7.7 (10.0)	8.4 (10.3)	2.6 (2.8)	32.4 (38.1)
II	10.3 (12.6)	5.0 (5.0)	9.0 (12.3)	9.2 (11.9)	2.6 (3.0)	36.1 (44.8)
III	7.6 (9.3)	3.5 (3.8)	6.0 (8.4)	5.8 (7.4)	2.2 (2.1)	25.1 (31.0)
IV	8.0 (9.7)	3.3 (3.5)	6.3 (8.0)	6.8 (8.7)	2.3 (2.3)	26.7 (32.2)
Pa	3.2 (3.2)	1.6 (1.5)	1.9 (1.5)	— —		
					3.6 (4.3)	10.3 (10.5)

between tegulum and embolar base. Tegular apophysis absent. Female epigynum broad with postero-lateral convex epigynal sclerite extending partly over fossa. Spermathecal sacs shortish, curved.

Description

Carapace low, flattened, length equals 6–8 times height, often with a pattern. Anterior eyes equally spaced. Distance between PME subequal to greater than that between PME-PLE. PME almost half of ALE, low. Line drawn behind posterior eye row is recurved. Narrow clypeus about ⅓ to less than ½ diameter of AME. Chelicerae of male unmodified, 4–5 retromargin teeth closely spaced, distal tooth subequal to subdistal tooth except in *H. immanis*. Leg I, when outstretched alongside leg II, reaches from midway along metatarsus II to towards distal end of metatarsus. Abdomen flattened dorso-ventrally often with mottled dorsal pattern of large brownish-black patches and occasionally two or three pairs of blackish spots. Male palpal tibial apophysis equal in length to tibia, directed anteriorly, lanceolate with short curved apex. Subembolic apophysis on embolar base adjacent its junction with tegulum. Tegular apophysis absent. Short, low flange on embolar base displaced mesally by subembolic apophysis. Embolar base small with mesal ridge. Embolic sclerite modified, recessed and connecting to embolus except in *H. nigrigularis*. Embolus coiled seven to eleven times, often slightly constricted ½ turn from tip. Female epigynum with postero-lateral epigynal sclerite extending partly over fossa. Fossa somewhat truncate posteriorly. Spermathecal sacs shortish, curved.

Species included

Holconia hirsuta (L. Koch, 1875), *H. insignis* (Thorell, 1870), *H. immanis* (L. Koch, 1867), *H. nigrigularis* (Simon, 1908), *H. simoni* (Rainbow, 1911) and *H. subdola* Thorell, 1881. Undescribed species are known. Distribution is over much of the Australian mainland. Where they occur in more xeric or arid areas they are usually found on large trees or along watercourses.

Holconia insignis (Thorell)
(Figs 6–10, Table 4)

Voconia insignis Thorell, 1870: 383. Syntypes ♂ and ♀, Australia. NHRM (Thorell collection), examined.
Holconia insignis: Thorell, 1877: 485.
Isopeda insignis: Hogg, 1903, 432.

Syntype female

CL 14.3, CW 13.8, AL 22.5, AW 14.5.

Colour in alcohol: Carapace grey-brown with brown-black markings. Chelicerae brown-black. Maxillae and labium blackish. Sternum brown. Legs dark brown with white and black patches on venter of patellae and tibiae. Abdomen greyish with darker markings and an anterior median streak of pale brown. Carapace: low, flattish, slightly concave anterior of fovea; thinly covered with short setae, long bristles on lateral edges and anterior half of caput. Eyes: AME 0.7, AME: ALE: PME: PLE = 1: 1.28: 0.71: 1.00. Interspaces: AME-AME 0.57, AME-ALE 0.71, PME-PME 1.71, PME-PLE 2.14, AME-PME 1.00, ALE-PLE 1.43. MOQ, aw: pw: 1 = 2.86: 3.14: 3.40. Width of clypeus 0.40. Chelicerae: retrolateral teeth 5. Sternum L 7.8, W 6.1. Legs: (Table 4) leg II longer than leg I, ratios 4.6, 3.9 respectively. Spination: Leg I, fe d2 p3 (1 on left) r3, pa pl rl, ti d2 p2 r2 v4, me p2 r2 v4. Leg II, fe d2 p3 r3, pa pl rl, ti d2 (0 on left) p2 r2 v6, me p2 r2 v4. Leg III, fe d2 p3 r2 (1 on left), pa pl rl, ti p2 r2 v6, me p2 r2 v6. Leg IV, fe d2 p3 rl, ti pl (0 on left) v6, me p4 r2 v4. Palp, fe dl + 4 apically in transverse row, pa pl rl, ti dl p2 r2, ta p3 r2. Abdomen: flattened dorso-ventrally, broad. Epigynum: (Figs 9–10) Convex epigynal sclerite extending from lateral rim posteriorly. Fossa with humps in posterior half, somewhat truncate posteriorly. Vulva of SAMA NJ988520 (Eidsvold, Q) with shortish, curved spermathecal sacs.

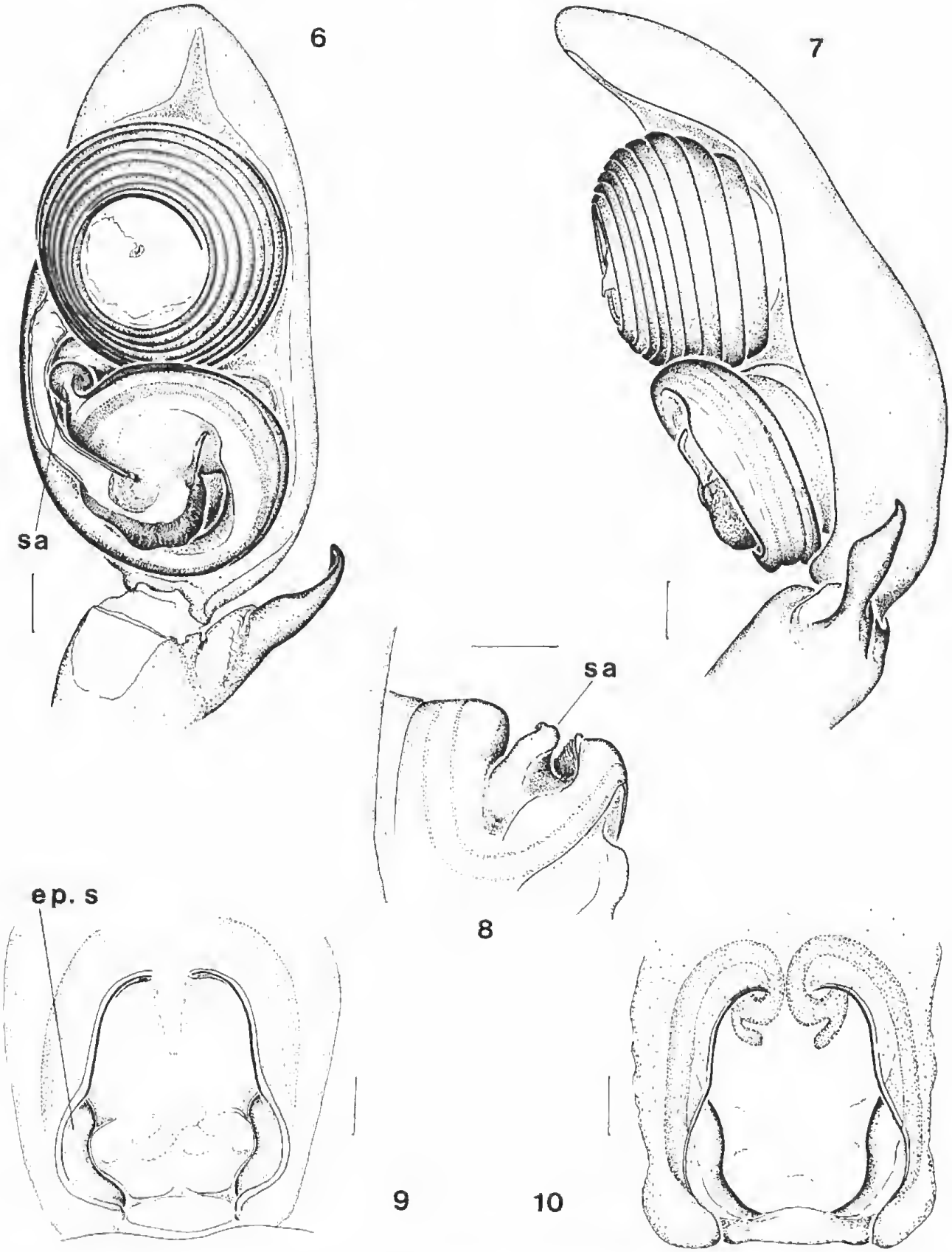
Syntype male as female except as follows:

CL 11.0, CW 10.9, AL 11.0, AW 8.2.

Eyes: AME 0.8, AME: ALE: PME: PLE = 1: 1.13: 0.63: 0.89. Interspaces: AME-AME 0.25, AME-ALE 0.25, PME-PME 1.25, PME-PLE 1.25.

TABLE 4. Leg measurements of *Holconia insignis* (Thorell), syntype female with syntype male in parentheses.

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	14.5 (15.9)	7.7 (6.9)	14.4 (15.0)	16.0 (16.6)	3.6 (3.7)	56.2 (58.1)
II	17.6 (18.9)	8.3 (7.5)	18.0 (19.8)	18.6 (19.2)	3.6 (3.7)	66.1 (66.1)
III	13.0 (13.3)	6.0 (5.3)	12.0 (11.9)	11.2 (11.2)	2.9 (3.0)	45.1 (44.7)
IV	13.8 (13.4)	5.7 (4.8)	12.0 (12.1)	12.2 (12.3)	3.1 (3.4)	46.8 (45.7)
Pa	5.0 (4.4)	2.5 (2.0)	2.8 (2.2)	— —	5.0 (6.0)	15.3 (14.6)



FIGURES 6–10. *Holconia insignis* (Thorell). 6–7, right palpal tibia and tarsus of syntype male (reversed drawing): 6, ventral; 7, retrolateral. 8, subembolic apophysis, prolateral, SAMA N1988522, embolus and conductor removed. 9, epigynum of syntype female. 10, vulva of female SAMA N1988520, ventral. Scale lines 0.5 mm. sa, subembolic apophysis; ep. s, epigynal sclerite.

AME-PME 0.75, ALE-PLE 1.00. MOQ, aw: pw: l = 2.13: 2.44: 2.25. Width of clypeus 0.25. Sternum L 6.2, W 5.0. Legs: (Table 4) leg II longer than leg I, ratios 6.0, 5.3 respectively. Spination: Leg I, fe pl. Leg III, fe rl. Leg IV, fe p2, ti p2, rl on left, me r3. Palp, ti rl, ta 0. Palp: (Figs 6–7) Left palp abnormal, stunted. Tibial apophysis equal in length to tibia, lanceolate, laterally flattened, apex curved mesally. Embolus with 9½ coils, weakly constricted ½ turn from tip. Embolar base with short low flange mid-distal position. Subembolic apophysis at junction of tegulum and embolar base (Fig. 8 shows the prolateral aspect of the apophysis of SAMA N1988522, Pilliga Scrub, NSW).

Distribution

H. insignis occurs in south-east Queensland and eastern NSW.

Isopedella gen. nov.

Diagnosis

Male with doubly curved palpal tibial apophysis gradually tapered. Broad embolar base partly projecting over embolus retrolaterally. Female with somewhat narrow epigynum not much broader posteriorly. Spermathecal sacs absent but may be represented by short 'elbows'.

Description

Carapace convex, length equals 3–4 times height. Distance between AME-ALE about half that between AME. Distance between PME subequal to that between PME-PLE. Line drawn behind posterior eyes barely recurved to straight. Clypeus about half diameter of AME or less. Chelicerae of male unmodified, retromargin teeth closely spaced, relatively close to fang base, distal tooth subequal to subdistal tooth. Leg I subequal in length to leg II, leg I of female about 3½ times carapace length or less. Abdomen rounded with 2–3 pairs of black spots, with or without a posterior folium or with pairs of spots indistinct and whitish patches combined with a folium or with scattered brown spots. Venter usually with narrow to broad transverse band of black setae posterior to epigastric furrow. Male palpal tibia with gradually tapered, somewhat rounded retrolateral apophysis angled to venter near base before turning again to point anteriorly, curving again near apex. Embolus coiled six to nine times, gradually tapered to tip, second coil larger than third, first coil easily seen in ventral view. Embolar base broad, projecting over embolus on retrolateral side, ridge and granulations absent. Occasionally with short pro-distal flange on embolar base. Embolic sclerite absent or small and obscured by embolar base. Tegular apophysis large, ventral edge extended distally and mesally, usually with concave posterior face, most often well separated from embolar base. Epigynum relatively narrow, bell-shaped or ovate, broadest posteriorly. Area between fossa and lateral rim concave at posterior corner. Fossa may have humps, pigmentation and granulate area posteriorly. Spermathecal sacs usually absent, rarely represented as short 'elbows'.

Type species

Heteropoda pessleri Thorell, 1870.

Etymology

Isopedella refers to the generally smaller proportions of the species compared to their counterparts in *Isopeda*.

Species included

Isopedella pessleri (Thorell, 1870), *I. ardrossana (Hogg, 1903)*, *I. cana* (Simon, 1908), *I. cerussata* (Simon, 1908), *I. conspersa* (L. Koch, 1875), *I. flavida* (L. Koch, 1875), *I. frenchi* (Hogg, 1903), *I. inola* (Strand, 1913), *I. leai* (Hogg, 1903), *I. maculigastra* (Strand, 1907), *I. meraukensis* (Chrysanthus, 1965), *I. tepperi* (Hogg, 1903), *I. tietzi* (Hogg, 1903), *I. saundersi* (Hogg, 1903) and *I. terangana* (Strand, 1911). Several unnamed species are known and many synonymies are likely. The genus is widespread over the Australian mainland and parts of New Guinea. Most species frequent areas of low trees or mallee scrub.

Isopedella pessleri (Thorell)

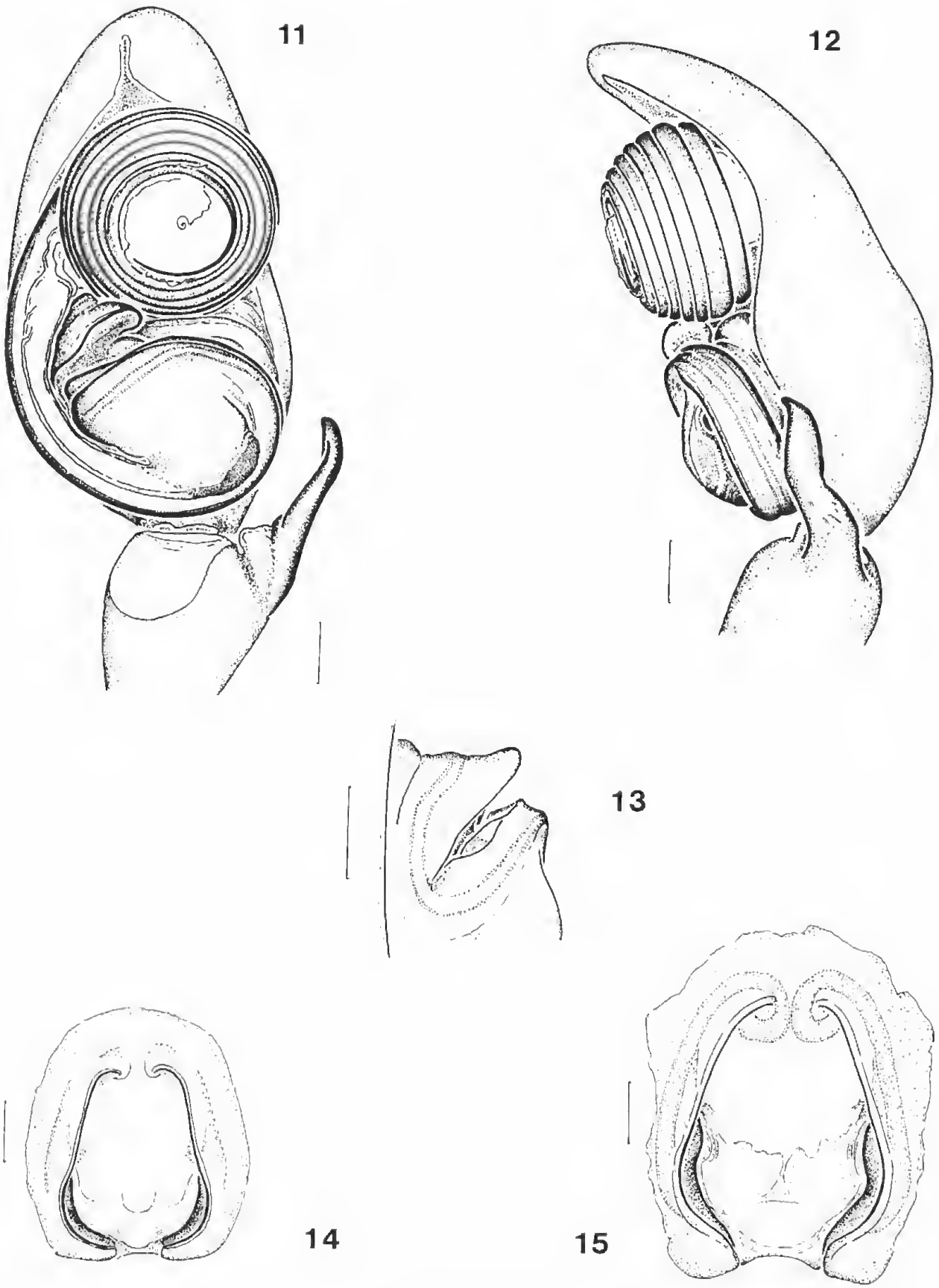
(Figs 11–15, Table 5)

Heteropoda pessleri Thorell, 1870: 387. Holotype ♀, Australia, NHRM 1209 (Thorell Collection), examined.
Isopeda pessleri: L. Koch, 1875: 679.

Holotype female

CL 9.0, CW 8.8. AL 9.8, AW 7.8.

Colour in alcohol: Carapace and appendages red-brown. Sternum with thick covering of long black setae. Coxae with long black setae on basal half. Abdomen grey-brown with two pairs of black spots. Venter yellow-brown with narrow transverse band of black setae behind epigastric furrow. Carapace: moderately high, convex, covered with short setae, whitish-grey in ocular region. Eyes: AME = 0.6. AME: ALE: PME: PLE = 1: 1.16: 0.75: 1.00. Interspaces: AME-AME 0.50, AME-ALE 0.42, PME-PME 1.50, PME-PLE 1.66, AME-PME 0.91, ALE-PLE 1.15. MOQ, aw: pw: l = 2.50: 3.00: 2.50. Width of clypeus 0.50. Chelicerae: Long pointed setae around fang base. Retrolateral teeth 5, rather



FIGURES 11–15. *Isopedella pessleri* (Thorell). 11–12, right palpal tibia and tarsus of male SAMA N1989111 (reversed drawing): 11, ventral; 12, retrolateral. 13, tegular apophysis, prolateral, SAMA N1989111, embolus and conductor removed. 14, epigynum of holotype female. 15, vulva of female SAMA N1989112, ventral. Scale lines 0.5 mm.

TABLE 5. Leg measurements of *Isopedella pessleri* (Thorell), holotype female with male SAMA N1989111 in parentheses.

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	8.1 (8.5)	4.5 (3.8)	7.2 (7.6)	8.0 (8.5)	2.5 (2.5)	30.3 (30.9)
II	9.0 (9.3)	4.6 (3.8)	7.9 (8.4)	8.3 (8.6)	2.5 (2.5)	32.3 (32.6)
III	7.2 (7.3)	3.6 (2.9)	5.8 (5.7)	5.7 (5.7)	2.0 (2.0)	24.3 (23.6)
IV	7.8 (—)	3.4 (—)	6.3 (—)	6.8 (—)	2.2 (—)	26.5 (—)
Pa	2.6 (2.7)	1.6 (1.2)	2.0 (1.1)	— —	3.5 (3.7)	9.7 (8.7)

closely spaced, subdistal tooth largest. Sternum L 4.9, W 4.0. Legs: (Table 5) leg II longer than leg I, ratios 3.5, 3.3 respectively. Spination: Leg I and II, fe d2 p3 r3, pa pl rl, ti d2 p2 r2 v6, me p2 r2 v4. Leg III, same but r2 on fe. Leg IV, fe d2 p3 rl, pa pl, ti dl p2 rl (r2 on left leg) v6, me p4 r4 v4. Palp, fe dl + 4 apically in transverse row, pa pl rl ti dl p2, ta p2 rl. Abdomen: clumps of short black setae form paired dorsal spots. Epigynum: (Figs 14–15) Ovate, rounded anteriorly, lateral rims diverging slightly for half their length then gently arced outwards to posterior. Posterior of fossa raised, granulated and darkly pigmented. Vulva of SAMA N1989112 (Kaleen, Canberra, ACT) lacks spermathecal sacs.

Male SAMA N1989111 (Nowra, NSW), as female except as follows:

CL 6.8, CW 6.3, AL 7.0, AW 5.0.

Colour in alcohol: Carapace and legs orange-brown. Caput and chelicerae dark red. Maxillae and labium brown. Sternum red-brown with a covering of long brown-black setae. Coxae yellow-brown with few black setae, mainly on leg I. Abdomen with narrow dark brown folium along its entire length. Venter with brown spots. Eyes: AME 0.45. AME: ALE: PME: PLE = 1: 1.13: 0.76: 1.11. Interspaces: AME-AME 0.49, AME-ALE 0.22, PME-PME 1.33, PME-PLE 1.33, AME-PME 1.07. ALE-PLE 1.07. MOQ, aw: pw: l = 2.58: 2.89: 2.76. Clypeus width 0.67. Chelicerae with numerous short adpressed and long upright setae. Sternum L 3.4, W 3.1. Legs: (Table 5) leg II longer than leg I, ratios 4.8, 4.5 respectively. Spination: Leg II, fe rl on right. Leg IV, not available, both missing. Palp, ti p3 rl, ta 0. Palp: (Figs 11–13) Tibial apophysis equal in length to tibia, angled ventrally just above base, turning again to original direction before curving mesally at apex. Slightly rounded in form. Embolus with 8 coils, gradually tapered to tip. Embolar base large, extending partly over embolus retrolaterally (Fig. 11). Short pro-distal flange. Tegular apophysis large, concave, extended mesally, well separated from embolar flange.

Distribution

I. pessleri is found in southern NSW and north-eastern V.

Beregama gen. nov.

Diagnosis

Male palpal tibial apophysis straight and thin or doubly curved and, at least, broadest mid-length. Tegular apophysis weakly modified. Embolar base small, often reduced on proximal side. Female with heavily sclerotised epigynum margin. Spermathecal sacs long and looping to anterior.

Description

Carapace convex, length equals 3–4 times height. Distance between AME-ALE subequal to half that between AME. Distance between PME much less than or subequal that between PME-PLE. Line drawn behind posterior eyes usually straight. PME dome-shaped. Clypeus width equal or subequal diameter of AME. Chelicerae of male occasionally modified, swollen retro-distally with distal tooth of retromargin well separated from subdistal tooth, larger and angled anteriorly. Leg I often reaches to distal end of metatarsus of leg II. Leg I of female up to 4½ times carapace length. Abdomen without dorsal pattern except in *cordata* which has a folium. Male palpal tibial apophysis length shorter than tibia, relatively straight to curved much as in *Isopedella* but then broader mid-length or throughout. Embolus coiled from nine to fifteen times in a stack equal in width to cymbium. Embolus gradually tapered to tip. Prodistal flange on embolar base, if present, short and low. Tegular apophysis swollen, weak ridge projecting ventrally, flattish beneath, often largely obscured by embolar base. Epigynum horse-shoe shaped or in *aurea*, lateral rim broadly rounded posteriorly, both with heavily sclerotised lateral rim often appearing to be continuous anteriorly. Lateral rim of *aurea* slopes towards recessed fossa. Spermathecal sacs long, looping to anterior.

Type species
Isopeda aurea L. Koch, 1875.

Etymology
The name *Beregama* is derived from the Aboriginal word beregegama, meaning lagoon shaped like a horse-shoe, and used in reference to the shape of the epigynum margin surrounding the fossa of most species.

Species included
Beregama aurea (L. Koch, 1875), *B. cordata* (L. Koch, 1875), *B. herculea* (Thorell, 1881) and *B. goliath* (Chrysanthus, 1965). Distribution is from north-eastern NSW along the east coast and Great Dividing Range of Q to New Guinea where it appears to be common. Unnamed species occur in north-east NSW to south-east Q and N.G. These species may belong to a yet undescribed genus as the males have between 2 to 3½ embolus coils. They appear to be more primitive species closely related to *Typostola* Simon, 1897 and *Zachria* L. Koch, 1875.

Beregama aurea (L. Koch)
(Figs 16–20, Table 6)

Isopeda aurea L. Koch, 1875: 696. Syntypes immature ♀ and ♂, MacKay, Queensland, ZMH, whereabouts unknown, possibly lost. Doubtful ♀ syntype from Rockhampton, Queensland, in ZMH (Mus. Godeffroy Nr 6517), in poor condition, measured and drawn by G. Pajak.
Isopeda flavibarbis L. Koch, 1875: 698. Holotype immature, Sydney, New South Wales, ZMH (Mus. Godeffroy Nr 11015), examined. **New synonymy.**
Isopeda herculeana Strand, 1913: 610. Holotype ♀, Queensland, SMF 5020, examined. **New synonymy.** I have chosen to give the following description from the holotype *I. herculeana* as I have not personally examined the doubtful syntype from Rockhampton. Its fragile condition excludes availability for loan.

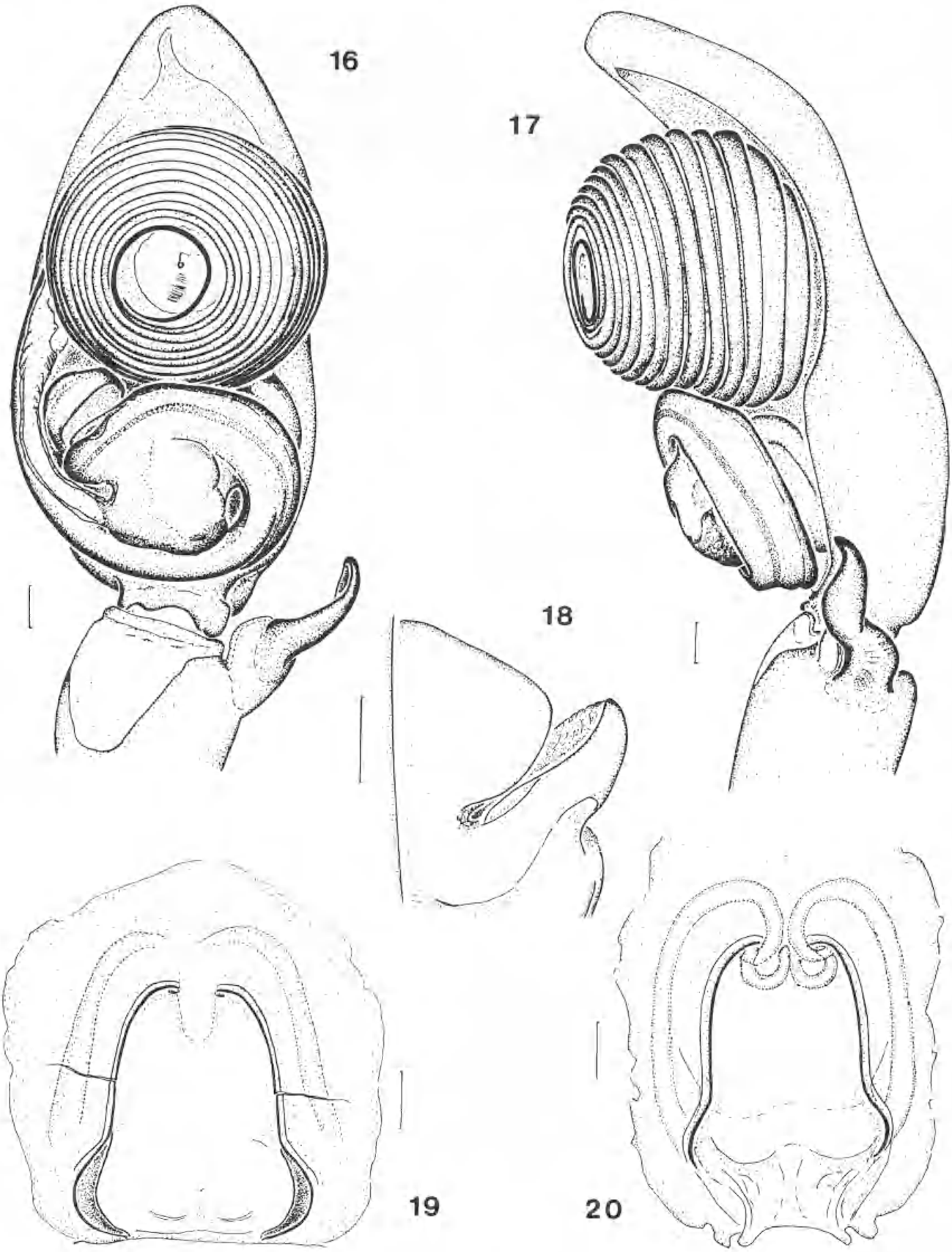
Female SMF 5020
CL 17.2, CW 17.4, AL 24.0, AW 21.0.

Colour in alcohol: Carapace red-brown with darker flecks, whitish setae in ocular region. Chelicerae dark brown, long yellowish setae. Legs light red-brown with clumps of white setae on femora, mostly ventrally, long yellowish setae. Maxillae and labium black-brown, tipped anteriorly with orange. Sternum orange-red with long yellowish setae. Coxae orangish. Abdomen yellowish with numerous concolorous long setae. Venter with faint 'V' marking. Carapace: moderately high, convex, caput slightly raised. Eyes: AME 1.00. AME: ALE: PME: PLE = 1: 1.30: 0.80: 1.00. Interspaces: AME-AME 0.50, AME-ALE 0.50, PME-PME 1.50, PME-PLE 1.80, AME-PME 0.90, ALE-PLE 1.20. MOQ, aw: pw: 1 = 2.60: 3.00: 2.90. Width of clypeus 1.00. Chelicerae with numerous long stout setae. Retrolateral teeth 4, distal tooth well spaced from larger subdistal tooth. Maxillae rounded. Sternum L 9.5, W 7.5. Legs: (Table 6) leg II longer than leg I, ratios 4.5, 4.3 respectively. Spination: Leg I, fe d2 p2 r3, pa pl rl, ti d2 p2 r2 v6, me p2 r2 v4. Leg II, fe d2 p3 r3, pa pl rl, ti p2 r2 v6, me p2 r2 v4. Leg III, same but fe r2. Leg IV, fe d2 p3 r1, pa pl, ti p2 r2 v6, me p4 r3 v4. Palp, fe dl + 4 apically in transverse row, pa pl rl, ti d1 p3 r2, ta p2 r2. Epigynum: (Figs 19–20) Lateral rim heavily sclerotised anteriorly, sloping towards recessed fossa. Posteriorly rim rounded and concave. Vulva of AM KS16683 (Inverell, NSW) with long spermathecal sacs looping to anterior.

Male AM KS16662 (Emmaville, NSW) as female except as follows:
CL 14.5, CW 13.5, AL 13.8, AW 10.2.
Colour in alcohol: Carapace reddish, caput dark red, both with blackish reticulations. Chelicerae blackish-brown. Maxillae and labium dark brown. Eyes: AME 0.88. AME: ALE: PME: PLE = 1: 1.14: 0.73: 1.14. Interspaces: AME-AME 0.43, AME-ALE 0.34, PME-PME 1.20, PME-PLE 1.59, AME-PME 0.95, ALE-PLE 0.95. MOQ, aw: pw: 1 = 2.30: 2.64: 2.73. Width of clypeus 0.73. Sternum L 7.0, W 6.2. Legs: (Table 6) leg II longer than leg I, ratios 4.7, 4.2 respectively. Spination: Leg II, ti dl. Leg IV, ti 0 (1 on left). Palp, pa r2, ti rl, ta 0. Palp: (Figs 16–18)

TABLE 6. Leg measurements of *Beregama aurea* (L. Koch), holotype female *Isopeda herculeana* with male AM KS16662 in parentheses

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	20.0 (16.3)	10.0 (7.7)	19.0 (16.2)	21.0 (16.8)	5.0 (4.2)	75.0 (61.2)
II	22.0 (18.3)	10.5 (7.9)	21.5 (18.9)	23.0 (18.5)	6.5 (4.2)	77.5 (67.8)
III	15.5 (12.6)	7.5 (5.7)	14.0 (11.5)	12.5 (10.3)	4.0 (3.1)	53.5 (43.2)
IV	17.0 (13.8)	7.0 (5.4)	14.7 (12.5)	15.7 (12.6)	4.2 (3.2)	63.6 (47.5)
Pa	6.6 (5.2)	3.8 (2.5)	4.6 (2.5)	— —	7.4 (7.1)	22.4 (17.3)



FIGURES 16–20. *Beregama aurea* (L. Koch). 16–17, left palpal tibia and tarsus of male AM KS16662: 16, ventral; 17, retrolateral. 18, tegular apophysis, prolateral, distal part of conductor not drawn. 19, epigynum of holotype female *Isopeda herculeana* Strand, SMF 5020. 20, vulva of female AM KS16683, ventral. Scale lines 0.5 mm.

Tibial apophysis length shorter than tibia, angled above base to venter then curving back towards the anterior, broad mid-length. Embolus with 15 coils, last coil gradually tapered to tip. Embolar base small with short, low flange prodistally. Tegular apophysis a rounded protrusion barely distinct from tegulum, with weak ridge at apex.

Distribution

B. aurea occurs in eastern Q and north-eastern NSW.

Misplaced Species

Isopeda gloriosa Rainbow, 1917 is transferred to *Delena gloriosa* (Rainbow), **new combination**.

Isopeda immigrans Strand, 1913 is transferred to *Polybetes pythagoricus* Holmberg, 1874, **new synonymy**. The type locality of *I. immigrans*, 'Australia', is considered in error. Although recorded as arriving in England 'On cowhide from Australia', it probably entered the ship elsewhere.

Isopeda delanira Thorell, 1881 does not belong to any of the above genera. The vulva of dissected material and the embolus of males seen, lack spirals. A female of this species from New Guinea was described and figured by Chrysanthus (1965) as *Olios fimbriatus*. The male, as yet undescribed, has a large palpal tibia apophysis with large ventrally directed basal swellings and a curved, triangular embolic process which rests on a spoon shaped conductor. The tegulum has a prolateral flange.

Nomina Dubia

Voconia dolosa L. Koch, 1875: 648. Syntypes, two dry specimens from Australia, presumed lost (pers. comm. Dr F. Renner, SMNS).

Isopeda pococki Hogg, 1903: 440. The dry syntypes, male and female, from Australia without exact locality, are not in BMNH (pers. comm. P. Hillyard) and are probably lost. Although Hogg gives an adequate description this cannot be matched with known Australian species. The sternum colour excludes it from *Beregama aurea* with which it comes closest.

Isopeda robusta L. Koch, 1875. From Australia without exact locality, this species was described from a dry specimen which has most likely since been reduced to dust by dermestid beetles (pers. comm. Dr J. Gruber, NHMW). No further material recognisable from the original description has come to hand thus making this species very doubtful.

Isopeda vastula Strand, 1907. The female holotype without locality, has not been located, nor is its depository institution known. It is also not recognisable from the original description.

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